CLAIMS

1. An apparatus comprising:

circuitry generating information indicative of an operating status of rail line wayside equipment;

a first communications link for communicating the information from a wayside equipment location to a railroad locomotive; and

a second communications link for communicating the information from the railroad locomotive to a location remote from the wayside equipment location.

2. The apparatus of claim 1, further comprising:

a database for receiving and storing the information at the remote location; and

a data processor associated with the database for processing the information.

3. The apparatus of claim 1, further comprising a solar power source for providing energy to the circuitry at the wayside location.

4. The apparatus of claim 1, wherein the second communications link comprises a wireless communication device also used to communicate locomotive operating status information.

5. The apparatus of claim 4, further comprising:

a database receiving information from the wireless communication device for receiving and storing the information; and

a data processor associated with the database for processing the information.

6. The apparatus of claim 1, wherein the circuitry comprises a sensor detecting an output of a human-observable annuciator.

7. The apparatus of claim 1, wherein the circuitry comprises a hot box detector.

8. The apparatus of claim 1, wherein the circuitry comprises a dragging equipment detector.

9. The apparatus of claim 1, wherein the circuitry comprises a high/wide load detector.

10. The apparatus of claim 1, wherein the circuitry comprises an equipment identification detector.

11. The apparatus of claim 1, wherein the first communications link and second communications link comprise two-way communication devices for communicating between the remote location and the wayside location.

12. An apparatus comprising:

a sensor generating a signal responsive to an operating status of equipment located at a railroad track wayside location, with the equipment operating in response to passage of a railroad locomotive adjacent to the equipment;

circuitry responsive to the signal for generating information representing the operating status of the equipment;

a communications link for communicating the information to a database remote from the wayside location via the railroad locomotive; and

a data processor associated with the database for processing the information.

13. The apparatus of claim 12, further comprising testing circuitry for applying a test signal to the equipment to generate a desired operating status.

14. The apparatus of claim 12, wherein the testing circuitry is responsive to a polling signal generated from a location remote from the wayside location.

15. The apparatus of claim 12, wherein the data processor further comprises a report generator for generating a report responsive to the information.

16. The apparatus of claim 12, further comprising a notification routine operable by the data processor for providing a notification when the information satisfies a predetermined criterion.

17. The apparatus of claim 12, wherein the equipment located at the wayside location comprises one of the group of crossing warning equipment, wayside rail lubricator equipment, signal equipment, hot box detector equipment and switch machine equipment.

18. The apparatus of claim 12, wherein the sensor comprises one of the group of a current sensor, a voltage sensor, a light sensor, a mercury switch, a ground fault sensor, and an accelerometer.

19. The apparatus of claim 12, wherein the sensor is disposed on a railroad locomotive operating on the railroad track.

20. The apparatus of claim 12, wherein the communication link comprises a first communications link communicating the information from the wayside location to a vehicle operating on the rail line and a second communications link communicating the information from the vehicle to the database.

21. An apparatus comprising:

circuitry for activating an annunciator at a railroad grade crossing location in response to the approach of a railroad train;

a sensor for generating a signal responsive to the operation of the annunciator;

circuitry responsive to the signal for generating information representing an operating status of the annunciator;

a first communications link for communicating the information from the grade crossing location to the train;

a second communications link for communicating the information from the train to a location remote from the grade crossing location;

a database for receiving and storing the information; and

a data processor associated with the database for processing the information.

22. The apparatus of claim 21, wherein the first communications link and second communications link comprise two-way communication devices for communicating between the remote location and the grade crossing location.

23. A method of monitoring the operation of railroad wayside equipment, the method comprising:

sensing a condition of equipment located at a railroad track wayside location;

generating information responsive to the condition indicative of an operating status of the equipment;

transmitting the information to a locomotive operating on the railroad track; and

transmitting the information from the locomotive to a location remote from the wayside location.

24. The method of claim 23, further comprising generating a polling signal from a location remote from the wayside location to cause the sensing, generating and transmitting steps to occur.

25. The method of claim 23, further comprising:

locating a sensor at the wayside location for generating a signal responsive to the condition;

processing the signal at the wayside location to generate the information; and

transmitting the information to a database located remote from the wayside location.

26. The method of claim 25, further comprising manipulating information in the database to populate a report.

27. The method of claim 25, further comprising automatically issuing an alert when the information is indicative of a failure of the equipment.

28. The method of claim 25, further comprising populating a failure database when the information is indicative of a failure of the equipment.

29. The method of claim 28, further comprising automatically populating a report from the failure database.

30. The method of claim 23, further comprising transmitting the information from the locomotive to a location remote from the wayside location via a communication link also used for transmitting information regarding an operating status of the locomotive to a data center.

31. A method comprising:

sensing the operation of an annuciator for railroad grade crossing equipment at a grade crossing location in response to a railroad locomotive passing the grade crossing location;

generating information responsive to the sensed operation and indicative of an operating status of the annuciator;

transmitting the information from the grade crossing location to the railroad locomotive; and

transmitting the information from the railroad locomotive to a location remote from the grade crossing location.